

NAS NORTH ISLAND - NAVY REGION SOUTHWEST NAVY ENVIRONMENTAL LEADERSHIP PROGRAM

CLEANUP

WESTERN PRODUCT RECOVERY GROUP COORDINATE, CHEMICAL BONDING, AND ADSORPTION DEMONSTRATION

LEAD ACTIVITY

Naval Air Station (NAS) North Island

STATUS

Complete

MISSION

Demonstrate fixation and recycling of metal-contaminated soil

REQUIREMENT

Alternative methods of treating heavy metal-contaminated soil at Navy sites are required.

DESCRIPTION

A pilot-scale treatability study using the Western Product Recovery Group's (WPRG) coordinate, chemical bonding, and adsorption (CCBA) process was conducted to evaluate the technology's ability to treat heavy metal-contaminated soil from NAS North Island Site 2, the Old Spanish Bight Landfill. During the CCBA treatment process, contaminated soil is heated to a high temperature and mixed with clay. The clay's silicon matrix reacts with the metals to form metal silicates, which chemically fix the metals to the final treatment product. After treatment, the soil is recovered as stable, nonleachable ceramic granules that can be reused as on-site backfill or recycled as landscaping material, road base material, or aggregate for concrete. Air emissions generated during soil treatment are captured and treated on site before they are discharged to the ambient air. Because contaminated soil did not have high enough metal concentrations to conduct a rigorous test of the technology, soil spiked with higher metal concentrations also was used. A report is being prepared to outline the results of the treatability study. No further demonstration of the technology is expected at this time.

BENEFITS

- The process residue can be placed back in its original location or used as aggregate

ACCOMPLISHMENTS/CURRENT STATUS

Date	Activity
JUL 1995	CCBA treatability work plan submitted for review
SEP 1995	250 kilograms of metals-contaminated soil from Site 2 selected for use in the treatability study
OCT 1995	Bench-scale treatability study using metals-contaminated soil and spiked soil from Site 2 completed
SEP 1999	Draft Treatability Study Report prepared

FUTURE PLAN OF ACTION & MILESTONES

Not Applicable

COLLABORATION/TECHNOLOGY TRANSFER

The technology is in the U.S. Environmental Protection Agency's (EPA) Superfund Innovative Technology Evaluation (SITE) Emerging Technologies Program, and the treatability study was conducted in cooperation with EPA.

BIBLIOGRAPHY

None available

RELATED GOVERNMENT INTERNET SITES

[Hazardous Waste Cleanup Information](#)

RELATED NAVY GUIDEBOOK REQUIREMENT

Not applicable

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